NEW JERSEY DEPARTMENT OF HEALTH & SENIOR SERVICES

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FACT SHEET:
INQUIRIES ABOUT CANCERS IN COMMUNITIES

Cancer cluster inquiries.

Concerns regarding a possible cluster of cancer sometimes occur when someone's family member, neighbor, or co-worker is diagnosed with cancer. This close contact with cancer often brings an awareness of others who also have cancer and may lead to the perception that there are an unusually large number of individuals with cancer in one's community or workplace. People often suspect that the cancers are caused by hazardous substances in the environment. The New Jersey Department of Health and Senior Services (NJDHSS) and local health departments are sometimes contacted because of increased awareness about cancer and the search for cancer causes. This fact sheet addresses some key issues in evaluating cancers in communities. We hope it is helpful.

Cancer is more common than many people realize.

According to the American Cancer Society, about 1 out of 2 men and 1 out of 3 women in the United States will develop cancer over their lifetime. As a result, over the years, cancer will affect most households. Because public health and medicine have conquered many infectious diseases, cancer has become the second leading cause of death in the U.S., following heart disease. Given these statistics, it is not surprising to know several people in one's neighborhood or workplace who have cancer.

Cancer is not just one disease.

Cancers are a group of more than 100 diseases that all start with uncontrolled growth and spread of abnormal cells. Different types of cancers have different rates of occurrence and different causes. We cannot assume that all the different types of cancers in a community or workplace share a common cause.

The risk of having cancer is related to age.

While cancers occur in people of all ages, incidence rates (the number of newly diagnosed cases of cancer in a specific population during a specific time period) for most types of cancers rise sharply among people who are over 45 years of age. When a community, neighborhood, or workplace consists primarily of people over the age of 45, and particularly over the age of 60, we see many more cancers there than in a community, neighborhood or workplace with more young people. It should be noted, however, that cancer is also the second leading cause of death in children, with accidents the most frequent cause.

More than half of all cancers are related to lifestyle factors.

Cancers may be caused by a variety of factors acting alone or together, usually over a period of many years. Scientists estimate that most cancers are due to lifestyle factors including cigarette smoking, heavy use of alcohol, diet (high fat and low fiber), physical inactivity and overweight or obesity. Other risk factors for some cancers include reproductive patterns, sexual behavior, sunlight exposure, some infectious diseases and some occupational exposures. A family history of cancer may also increase a person's chances of getting a cancer.

Hazardous substances and cancer.

Most health scientists currently believe that a relatively small proportion of all cancers are related to hazardous substances found in the home, community, or workplace. In order for environmental contaminants to cause cancers, or any other disease, there must be a completed pathway through which the contaminants could travel from their source, through the environment, to enter the human body through air, water, food, or direct contact with the skin. It is important that any environmental contamination that violates federal or state standards be rectified properly, whether or not such a hazard is found to cause disease.

Cancers takes a long time to develop.

For adults, there is often a long period, 10 to 30 years or even more, between the exposure(s) and the diagnosis of cancer. Since the cancers we see now are generally related to a lifetime of certain habits or exposures to carcinogens, it is usually very difficult to pinpoint what caused a specific case of cancer.

Most cancer clusters occur by chance.

Cancer, and other diseases, does not occur evenly over time and place. Usually increased or decreased rates of cancer are due to random variation, even when high or low rates can be statistically confirmed. Therefore, we can rarely conclude that even a statistically significant increase was caused by exposure to local environmental factors. Additionally, when the numbers of cancer cases are small, it is particularly difficult for statistical analyses or scientific studies to yield useful or valid information.

Experience in the United States with cancer cluster investigations.

In the 1970s, when state cancer registries were first being organized, many public health scientists and others hoped that observations of clusters of cancer in the community might lead to the discovery of specific causes of these cancers. Since then, thousands of statistical analyses and many intensive studies have taken place throughout the U.S., mainly conducted by state, local, or federal agencies. With two possible exceptions (Woburn, MA and Dover Township, NJ), none of these cluster investigations has led to the identification of specific causes, even when scientists were able to show that there was a statistically increased number of cancers in a geographic area.

The New Jersey Department of Health and Senior Services is exploring possible methods to identify, interpret and report on geographic patterns of cancer. We hope that future surveillance of cancers in the population will lead to new opportunities for cancer prevention and control.

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